KNITTING AND CROCHET.

WINTER SHAWLS. From The Weekly Tribune.

Warm, comfortable and inexpensive shawls may be crocheted quickly by even inexperienced workers in the sumple pattern, 3 treble, 1 ch. Germantown wool in any desired color does admirably for this purpose. It is rather coarser than single zephyr, ut it works up nearly as well and goes twice as far for the same money. An ounce of Germantown means an ounce. A shop ounce of zephyr wool means just half an ounce by weight. For a fine light shawl. Saxony, split zephyr or Shetland answers well, but for a heavy economical shawl for winter wear we recommend Germantown. A large hook corresponding to a No. 6 or No. 8 knitting needle should be used—one which will readily make a treble stitch an inch long. Twenty ounces will make a large square shawl, and twelve a three-cornered one.

A SQUARE SHAWL. Make a chain of 4 loops and unite in a ring. In this ring work 3 treble. I ch. four times, and fasten the last chain to the top of the first treble. This first treble consists of a DC in the ring and 3 ch. on the top of it. Each group of S treble forms one of the sides of the embryo shawl, and the chain stitch

between the groups is the corner. On the second round start with a DC and 4 chain-3 for the last treble under the chain and 1 for the chain-stitch between the groups. Now work 3 treble, 2 ch., 3 treble, all under the first corner chain-stitch; make I chain and repeat these stitches in the other three corners. Remember that in the last corner there is one treble already (the one the row started with). So there work 3 treble, 2 ch., 2 treble, and fasten to top of treble already made. This completes the round. There is now a double group separated by 2 ch. at each corner and 1 ch. between them on each side of the shawl.

Make a DC under the 1 ch. and 3 ch. on the top for the first treble. Work 2 treble more, then 1 ch., and work 3 trebie, 2 ch., 3 trebie all under the 2 ch. in the corner. Make 1 ch., 3 treble under the following 1 ch., and repeat the group in the next corner; continue in this way all round. Remember that the 3 treble, 2 ch., 3 treble are only worked in each corner under the 2 ch. of the previous round. Everywhere else work 3 treble under the 1 ch. of the previous round, and

make 1 ch. between each group of three.

Every round is like the 3d. On account of the increasing at the corners the shawl gets larger and larger, and when spread out should make a flat square. Sometimes, however, the corners have a tendency to curl up. To prevent this, increase every fourth or fifth round on each side of the double group in the corners. This is done by working under the 1 ch. just before and after this double group 2 trebie, 1ch, 2 treble, instead of the usual S treble, and on the following round working 3 treble under the 1 ch., which makes an additional

When large enough, work a row of treble all round, putting the book through, not under, the chain-stitch as in square crochet, and increasing at each corner. On the following round make a row of scallops and fasten off neatly.

Such a shawl, all of one color, will be very ser-

viceable, but different colors may be introduced if In one recent example twelve ounces of scarlet were first used, then three rounds of dark maroon, one round of black, three rounds of maroon again, followed by two rounds of scarlet and a final row of shells.

A THREE-CORNERED SHAWL.

A handsome three-cornered shawl may be worked after the same pattern. For this make a chain of 33 loops. In the fourth from the book (or twenty-ninth from the other end) work a treble Then make 1 ch., miss one loop on the foundation and work 3 trebles into the next, or the 27th loop. " Make 1 ch., miss a loop and work 3 trebles into the 25th; repeat from " to end of row, but work only 2 trebles into the last stitch. The 2 trebles at each side are for edge-stitches and must always be worked. Break off the wool.

Join the wool for the second row with a DC, and make 3 ch. on it. This is the first of the 2 edge trebics. Make another trebie; then 1 ch., and work 3 treble under the chain between the edge stitches and the first group of 3 trebies. Make 1 cb., 3 treble under the next chain, and repeat in

A shawl of this kind worked by the writer was started in drab five rows, then five rows of light blue, then drab, and so on. After the last stripe of drab, were worked one row of plain treble in bine and one of DC, with a blue fringe and a row of scallops in blue along the neck,

OAK LEAF EDGING.

Cast on 10 stitches and knit a row plain. 1st row: Slip 1, knit 2, over and narrow, over twice and narrow, over twice and narrow, knit 1. 2d row: Knit 3, purl 1, knit 2, purl 1, knit 5, 3d row: Slip 1, knit 2, over and narrow, knit 2, over twice and narrow, over twice and narrow,

knit 1. 4th row: Knit 3, purl 1, knit 2, purl 1, knit 7. 5th row: Slip 1, knit 2, over and narrow, knit 4, over twice and narrow over twice and narrow,

6th row: Knit 3, part 1, knit 2, parl 1, knit 9, 7th row: Ship 1, knit 2, over and narrow, knit 6, over twice and narrow, over twice and narrow,

knit 1. 8th row: Knit 3, puri 1, knit 2, purl 1, knit 11. 9th row: Slip 1, knit 2, over and narrow, knit 8, over twice and narrow, over twice and narrow, knit S. nit 1. 10th row: Knit 3, purl 1, knit 2, purl 1, knit 13, 11th row: Shp 1, knit 2, over and narrow, knit

15.
12th row: Cast off 10 statches and knit plain to
the end of the needle. This pattern is sent by Mrs.
J. A. B., Troy.

STOCKING KNITTING.

EXAMPLES. The following examples are added to those already

FOR A GIRL OF POURTEEN. Fine yarn: No. 15 or 16 needles.

Fine yarn; No. 15 or 16 needles.
Cast on 69 stitches.
Ribbing—Knit 14 rounds.
Leg—69 stitches—Knit 50 plain rounds; decrease
on each side of scan stitch and work 5 plain rounds;
then increase 3 times with 5 plain rounds between,
and afterward work 20 plain rounds.
Narrowings—Decrease in 10 rounds with 6 plain
rounds between.
Archiv 53 stitches—Knit 34 plain rounds.

Ankle-53 stitches-Knit 34 plain rounds. Heet-27 stitches-Knit 29 rows, and mek -Knit 20 rows, and pick up 18

Heet—27 stitches—Rnit 20 to a, and set stitches on each side of heet.

Foot—53 stitches—Knit till it is 7½ inches long, measuring from end of heel; on first round knit 2 together to make even number.

Toe—Decrease till 1½ inches long, with 2 plain rounds between, and east off.

Total length of foot 9½ inches.

SMALL-SIZED LADY'S STOCKING. Fine merino or other wool; No. 18 needles. Cast on 138 stitches.

Ribbing—Knut 15 rounds.

Leg—138 stitches—Knut 196 plain rounds.

Narrowings—6 intakes with 5 rounds between, 4 with 6 rounds, 2 with 10 rounds, and 2 with 12

rounds between.

Ankie-110 stitches-Knit 60 rounds.

Heel-55 stitches-Knit 56 rows; then parrow on each plain row four times to round the heel, and east off French fashion. Pick up side loops and ingrease every fourth stitch.

Poot-110 stitches-Knit 80 rounds.

Toc—Decrease 5 rounds with 3 plain rounds between, 4 rounds with 2 plain rounds between, 12 rounds with 1 round between.

Cast off with 13 stitches on each needle.

For a full-sized stocking add 30 or 40 statches. LADY'S EXTRA SIZE. German knitting yarn; No. 16 needles.

Cast on 130 stitches.

Ribbing—Knit 24 rounds.

Leg—130 stitches—knit 119 rounds or 7½ inches.

Increase 4 stitches, with 4 rounds between, beginning at 71st round, or 4½ inches.

Narro vings—6 intakes with 4 rounds between, 5 with 5 rounds, 4 with 6 rounds, 3 with 7 rounds, 2 with 8 rounds.

with 8 rounds.

Ankle-94 stitches—knit 55 rounds or 3½ inches.

Heel-47 stitches—knit 47 rows; pick up side stitches till there are 38 on each side needle.

Foot-94 stitches—knit 79 rounds.

Decrease 16 rounds for toe with 1 plain round be--94 stitches-knit 55 rounds or 312 inches

Cast off with 15 stitches on each needle.

SCALES OF SOCKS AND STOCKINGS. The following table, taken from an English publication, "The Knitting Teachers' Assistant," will be found of service to readers. The stitches in the first two are for coarse needles and wool; with fine materials more loops would have to be cast on. The narrowings in the leg have uniformly 5 plain rounds between, and those for the toe are as follows: two decreasing with 3 rounds between, 2 with 2 rounds, 2 with one round, and then every reand till the toe is east off.

16, 16, 17 18, 18, 19 28, 28, 29	46 80 88	25 29		20		205
		43		24 28	20 40 56	
	STOC	KING	s.			
Sutches ca	Rounds to nar- rowings.	Narrowings in leg.	Rounds in ankie.	Strehes for beel.	Rows in heel.	Rounds in foot to toe.
28, 28, 29 30, 30, 31 33, 33, 33 36, 36, 37	110 120 135 148	8 10 12 13 14 21	36 40 40 44 46 50	29 33 33 37 41 45	24 24 28 28 30 40	28 32 36 40 52 68
	-	REME	NT I	N INC	ans.	
	94, 24, 25 28, 28, 29 30, 30, 31 33, 33, 33 36, 36, 37 44, 44, 45	Sutches cast 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Stitches cast 2	24, 24, 25 80 8 36 28, 28, 29 110 10 40 30, 30, 31 120 12 40 33, 33, 33 135 13 44 34, 44, 45 148 21 50 SCALE OF MEASUREMENT D	Sutches cast 2 3 3 3 3 3 3 3 3 135 134 44 37 36 36 37 144 45 144 44 44 45 143 21 50 45 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Stitches cast of superson of s

Socks and Stockings.	To decreasings in leg.	Entire length before divid- ing for heel.	Length of heel.	Entire length of foot.
Sock for child of four. Sock—second size. Sock for boy of twelve. Sock for boy of fitteen. Man's sock, 1st size. Man's sock, 2d size. Man's sock, 3d size. Stocking for child of 5 vrs. Stocking for child of 7 yrs. Stocking for child of 11 yrs. Woman's stocking, 1st size. Wan's stocking, 2d size.	81 ₄ 10 11 12	8 8 8	112 124 14 14 12 12 12 14 14 14 12 12 12 14 14 14 12 12 12 14 14 14 14 14 14 14 14 14 14 14 14 14	6 634 8 912 10 10 10 10 10 10 10 10 10 10 10 10 10

SCRAP-BAG.

SLIPPERS.—"School Girl" will find directions for crocheting slippers on page 7 of The Woman's Extra, No. 59, price 10 cents. Rose Bonder. — Mrs. Horner D. Case asks for directions for crocheting what is called the rose border used on shawls, infants' sacques, etc.

RAILROAD KNITTING.—Mrs. C. J. S. is thanked for directions for this kind of knitting, which will be shortly given. The specimen sent is exceedingly

TORCHON LACE.—The mistake in the pattern referred to by G. L. D. has already been corrected. Knit plain to the end of the row in the 16th and following rounds 7 instead of 6, 6 instead of 5, etc. In the other lace 27 is an error for 17.

SOME BRAVE WOMEN.

Prom Chambers's Journal.

In October, 1877, the brigantine Moorburg left Foochou in China, for Melbourne; carrying four scaenen, the captain, mate, and last, but by no means least, the captain's wife, who was a listle delicate woman, and her baby. They had not gone far on their voyage ere the crew fell sick, and one after another died. The mate did not succumb entirely, but became reduced to a skeleton, and was incapable of doing much; while the captain himself was almost in as miserable a plight, his legs having swollen tremendously, and his body being a mass of sores. His wife gloue held up under the

and the first group of S trebles and repeat in this way till the middle of the shawt is reached. Then work 3 treble, 2 ch., 3 treble under the middle 1 ch. Make 1 ch., 3 treble under the next chain, and so on to the end, remembering, after making 3 treble under the chain before the edge stitches, to make 1 ch., and then work 2 plain trebles. Break off and begin at the other end.

Every row is worked like the 2d. Don't forget in the middle of the shawt to work 3 treble, 2 ch., 3 treble under the 2 ch. of the previous row, precisely as it was done in each corner of the square shawt.

When large enough, make a row of plain trebles all round, then a row of DC. Add fringe. This should be about four inches deep, and each piece should therefore be eight inches long. Turn the shawt on the wrong side, put the book under the shawt it through. Catch the two strawds, pull through again and draw very tightly with the fingers. Put another piece into the same statch. Do this all the way across.

Next, on the straight or neck side of the shawl work a row of scallops, and the shawl is finished.

A shawl of this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or this kind worked by the writer was a shawl or the captain the captain timespace and shad and share the captain timespace and sones in the saic till they needed nursing no longer, had looked it the head i large steme. She vain he bit and tore her flesh; the undamized weman contrived to keep his throat closely infolded by her left arm while she battered his head with the stone, and at length killed him. Meanwhile the villagers had been alarmed, and came hurrying to lier aid, armed with gins, sticks, and stones; meeting Theresa on her way home covered with blood, from terrible wounds in her face, arms, and hands. They carried her to the hospital at Niza, where pitful to tell, she expired exactly a month afterward, consoled in her dying hours with believing that she had not sactificed her life in vain. A false belief, alas! for the shepherd-boy died of hydrophobia a day or two after his lamented deliverer.

nented deliverer.
Courageons in another way was a weman of the Courageous in another way was a woman of the Commune, who during that terrible rising had worked day and night in the hospital, assisting a certain surgeon, whose services were freely readered to men with whose cause he had no sympathy. When the insurrection was quelled, the doctor was arrested, and marched off to be tried by drum-head court-martial. As he approached the door of the tribunal, he met his late female assistant coming out between two soldiers, "Why, Adele" he exclaimed, "how came you here!" Looking hard at him, with unrecognizing eyes, she replied: "I don't know you, sir"; a denial he set down to a tear of acknowledging the acquaintance of a doomed man. Not a little to his surprise, he got off, and was set at liberty; to learn that Adele had been shot, and was on her way to death when she

fear of acknowledging the acquaintance of a doomed man. Not a little to his surprise, he got off, and was set at liberty; to learn that Adele had been shot, and was on her way to death when she had repudiated all knowledge of him, and forbore appealing for his and, rather than compromise him, and render his chance a desperate one.

A paer servant-gul of Noyon, in France, once proved herself a real heroine. A common sewer of great depth had been opened for repairs, the opening being covered at night with some planking; but those in charge of the operations neglected to place any lights near, to warn wayfarers of the danger in their path. Four men returning home from work, stepped on the planks, which being frail and rotten, gave way under their weight, and precipitated them to the bottom. It was some time before any one became aware of what had happened; and when the people gathered teemd, no man among the crowd was daring enough to respond to the frantic entreaties of the wives of the entombed men, by descending that fool and loath-some depth. Presently a tragile-looking girl of seventeen, stepping to the front, said quietty: "I'll go down and try to save the poor fellows"; and creatures calling themselves men were not ashamed to stand by and see Catharine Vasseur let down on her valiant but learful mission.

Then ensued a few long minutes of anxious suspense before the signal to hand up was felt, and twe still breathing but unconscious men were, with the gallant girl, brought to the surface. Nigh eximated as the effort had left her, the heroic marden only stayed to gain breath before descending again, regardless of the risk she ran.

This second venture nearly prove fatal. Upon reaching the bottom of the sewer and fastaning a rope around one prostrate form, Catharine felt as though she were being strangled by an invisible hand. Unfortunately, the rope round her own waist had become unfastened; and when, after grouping along the dripping, clammy wall, her hand touched it, she had not strength smilleint to pull

SCIENCE FOR THE PEOPLE.

DEEP-SEA TRAWLING. Most of the fishing around the Britsh con Most of the fishing around the Britan coasts is carried on by means of trawls. Soles, turbot, halibut, flounders, and in fact all ground-feeding fish, are caught in nets of this description. Seines and drift-nets are used for herrings, spilchards, mackerel, and long lines and hooks for codtish and a few other varieties, but the bulk of the fishing is done by trawls. These are of two kinds, the beam trawl and the otter trawl. The beam trawl is from 20 to 40 feet across, with a pursetrawl and the otter trawl. The beam trawl is from 20 to 40 feet across, with a purse-formed net some 50 to 80 feet long, the meshes being about 1½ inches or more at the beam and diminishing rapidly in size toward the tail of the net. The trawl is lowered gradually. Each end of the beam is weighted with iron "heads" or runners, and the whole sinks slowly to the bettom. A stout rope from each beam head forms a bridle, and to this the main rope from the vessel is attached. The under part of the net or belly is kept on the ground by a beavy foot rope, weighted the under part of the net or belly is kept on the ground by a beavy foot rope, weighted usually in deep water with small chains wound round it. The upper part of the net, or back, is attached to the beam, which is kept two feet or more from the ground by the iron heads. When the net is lowered the vessel is allowed to drift with the tide or with only a little sail over the fishing ground. with only a little sail over the fishing ground. The fish pass between the upper and lower parts of the net into the purse like end, where they are often prevented from return-

by packets.

by packets.

"otter" is a piece of wood of any shape An "otter" is a piece of wood of any shape or size shad on one of its long edges with iron or lead. When used for fishing with thes, as it is illegally in parts of England and Scotland, the iron submerges it about two-thirds of its depth. A buille of four strings then arranged in such a way that the force the current strikes the orter on an angle and carries it out into the stream, much as a kite rises in the air. The otter trawl is worked kite rises in the air. The otter trawl is worked like the beam trawl, the otters taking, however, the place of the beam. When thus used the otters are weighed sufficiently to sink them to the bottom, where they remain standing on their edge. The bridles are fixed on the under side of each at the necessary angle. When the strain is brought to bear on them the otters separate and open wide the meuth of the net. The advantage of the otter trawl is that it is cheaper and and takes up less room. It is hardly considered so efficient, however, as the beam trawl.

CURING GUTTA PERCHA.

Parkes's cold curing process, in which chloride of sulphur is made use of as a vulcanizing agent, can be applied in many ways, says Professor Bolas, in his Cantor lecture on the india-rubber and gutta-percha industries, to the vulcanization of gutta-percha industries, to the vulcanization of guita-percha. In the dipping process, certain precautions must be observed, as a mixture of carbon disulphide and chloride of sulphur rapidly dissolves gutta-percha. Perhaps the following is the best way of pro-

articles to be vulcanized are dipped for The articles to be vulcanized are dipped for an instant into a mixture of one part of caloride of sulphur with twen'y parts of carbon disulphide, no time being allowed for solution to take place. The dipped article having been allowed to rema'z for some hours exposed to the air, reacts with the small proportion of chloride of sulphur taken up from the bath, and chloride of sulphur taken up from the bath, and its surface becomes partially vulcant zed and insoluble. A second dip may now be given, but this time the liquid can be allowed to act during a longer period, the surface of the article being less soluble than was the case before. As the vulcanization proceeds, the articles may be allowed to remain longer and longer in the bath; and the result is that the gutta is vulcanized all through. Vulcanized gutta-percha is, with few exceptions, hard and ndifferent airke to the action of solvents, or of a temperature as high as 100- Centigrade.

A medification of this way of curing gutta-percha is as follows: Take two solutions, one containing four parts of guita-percha dissolved

containing four parts of guita-percha dissolved containing four parts of galda-percha dissolved in twenty parts of carbon disulphide; the other a mixture of one part of proto-chloride of sulphur with eight parts of carbon disul-phide. Having now mixed these two solutions, pour one half of the mixed liquid into a stopped bottle and the other half on a levelled of the mixed liquid into a stopped bottle and the other half on a revened glass plate. In about ten minutes the liquid in the bottle will have set to a jelly, owing to the fact of the gutta-percha's having be-come vulcanized and insoluble, while that poured on the levelled glass will form a film or skin of completely vulcanized gutta-percha, which almost resembles ivory in appearance.

REPRODUCTION OF BONE.

The question of the saving of a diseased or a wounded limb has for the general public great interest. An interesting case, which promises a new departure in conservative surgery, has just been published in the transactions of the Medical Society of the State of New-York for 1880. The case was under the care of Dr. George F. Shrady, surgeon to the Presbyterian and the St. Francis Hospitals, New-York. The and the St. Francis Hospitals, New-York. The patient was a newsboy tifteen years old, suffering from acuie general periositis of the humerus of the left arm, caused by an injury and subsequent exposure to cold. His arm, forearm, and hand were greatly swollen; fluctuation existed throughout the entire extent of the arm, and it was feared that the tissues would be transformed into a large abscess. His genthe arm, and it was feared that the tissues would be transformed into a large abscess. His gen-eral condition was also bad. For two weeks the patient was supported by the most nourish-ing diet, and the arm itself received every at-tention. It was evident, however, that the greater part, if not the whole, of the arm bone was deed, and that the greater part is

greater part, if not the whole, of the aim bone was dead, and that the general condition of the patient was most unfavorable.

Notwithstanding these unfoward circumstances, it was decided to perform an operation for the removal of the arm bone. Ether was therefore administered to the patient, and the operation was rapidly performed. The emire hope of the aim was found to be diseased and bone of the arm was found to be diseased and had to be removed, but fortunately its covering, the periosteum, was left almost entire. Within forty-eight hours after the operation the patient was out of danger and made a good recovery.
The growth of bone is well known to take place
from the periosteum, and in this case, it having
been carefully saved, the deposit of new bone
occurred throughout. In six months after the operation the bone had become so strong that the arm was found to be almost as useful as ever. In the history of bone reproduction, which includes the opinions of eminent living surgeons, a parallel to this case does not exist.

SWARMS OF FLIES.

Nature calls attention to some remarkable clouds of flies on this continent. At East Pictou, Nova Scotia (about 44° 50′ N., 63° W.), such a cloud was seen on August 21. "They passed Lismore about 6 o'clock in the evening close to the shore. They went with the wind, which was blowing lightly from the west, occasion, about the statement of the st cupying about twenty minutes passing a given point. They made a loud buzzing noise, which point. They made a fond buzzing noise, which was heard by many who missed seeing them. They flew so low that some of them appeared to fall into the water. About two miles below Lismore they slightly changed their flight, heading more to the north. After their passage numbers of strange flies were observed in some of the buyers near the shore. They some of the houses near the shore. They were about half an meh in length, with wings some of the proportionately longer than those of the com-mon house-fly, but whether they belonged to

the swarm is uncertain."

At Halifax, Nova Scotia, immense swarms At Halifax, Nova Scotia, immense swarms passed over Guysboro (lat. 44° 40° N., long. 61° 30′ W.), on September 5. They came from the east and resembled a dark cloud. A communication from Poughkeepsie, New-York, (lat. 41° 50′ N., long. 74° W.), states that a storm of flies was encountered on the Hadson River on the afternoon of September 4. The steamer D. R. Martin, bound south, encountered the fly-storm between New-Hamburg and steamer D. R. Martin, bound south, encountered the fly-storm between New-Hamburg and Newburg. It seemed like a great drift of black snow, and it reached southward from shore to shore as far as the feye (could reach. There were millions upon millions of the flies, and they hurried northward as thick as snow-flakes driven by a strong wind. They were long and black and had light wings, and the cloud must have been miles in length.

TRANSFER OF PASSENGERS.

An ingenious method for obviating the fre-An ingenious method for obviating the frequent stoppage of trains at stations, and yet accommodating the passengers from these stations, has been devised by M. Hanrez. A "waiting carriage," comprising a steam-engine with special gear, and space for passengers and luggage, is placed on a siding at the station, and picked up by the train as it goes past. The latter, by means of a nook on its last carriage, catches a ring supported on a post, and connected with a cable wound on a drum in the waiting carriage. Thereupon the drum begins waiting carriage. Thereupon the drum begins

to unwind, and in doing so compresses a system of springs, while the carriage is moved at a tate gradually increasing to that of the train. The engine of the carriage then winds in the cable, the train and carriages are connected, passengers are transferred from the joined carriage to the train and vice versa, then the two are disconnected, and the engine of the carriage, working on the wheels, brings it back carriage, working on the wheels, brings it ba

o the station whence it was taken.

EXTRACTING IODINE. In a recent note to the Paris Chemical Society, says The English Mechanic, MM. Peliteux and Allary describe an important improvement they have introduced in the nethod of extracting iodine from the juice of method of extracting iodine from the jaice of sea-wrack, on the Brittany Coast. The system of working has been this: The seaweed selected and cut by fishermen is massed on a base of flags and drained, before being put in the incinerating furnace. Here (owing to slow consumption by the furnace), it has time to ferment, and much liquid, charged with organic matters, and a considerable quantity of iodine, escapes. This juice is collected with care. Hitherto it has been evaporated to a syrup consistency, and then let flow into the princerator, where it burned with the the a symp consistency, and then let now into the incinerator, where it burned with the wrack, and furnished its contingent of iodized ashes. By the new process the juice, after being brought from 32 degrees to 40 degrees Baumé, is conveyed to the central refinery, and treated (in the hot state) by means of a Dubrunfant osmogen, or dialyzing apparatus, where it is transformed into a crystallizable liquid, suited for extraction of iodine without calcination. A much larger proportion iodine is thus obtained from it. PETTACAL.

This beautiful dye, which is also known under the names of empittonic acid, and cornflower blue, according to R. Gotheil, is obtained as follows: That part of the oil of woodtar which is heavier than water is repeatedly distilled and then heated with about peatedly distilled and then heated with about 25 per cent of alkali. After the indifferent oils have been separated the alkaline solution is mixed with 25 per cent of common sait. When cold the dimethylethers of pyrogallic acid and of methylpyrogallic acid separate out as a crystalline mass, which is then stirred up with five times its volume of a solution of soda-containing 20 per cent. After the liquid has been heated to a loud a cursolution of soda containing 20 per cent. Af-ter the liquid has been heated to a boil a cur-rent of air is forced through it till the liquid becomes entirely blue. The aqueous solu-tion of the cupittonate of potash that is formed is filtered hot, and the acin is precip-itated in the free state by the addition of muriatic acid. It is purified by repeated conversion of the acid into the soda salt, which is sparingly soluble in the cold, washing it in solution of common salt and reprecipitation.

WORLDLY PLACE.

Even is a palace, life may be led well!
So spoke the imperial sage, purest of men,
Marcus Aurelius. But the suffing den
Of common life, where, crowded up neil-mell,
Our freedom for a little bread we sell.
And drudge under some foolish master's ken,
Who rates us if we peer outside our pen—
Matched with a palace, is not this a hell?
Even in a palace! On his truth sincere
Who spake these words, no shadow ever came;
And when my ill-schooled spirit is aflame
Some nobler, ampier stage of life to win.
Fill stop and say: "There were no succor here!
The aids to noble life are all within." Even in a palace, life may be led well!

THE PRINCE OF MONTENEGRO.

Prince Nikita is a very handsome man of about forty, stouter than most of his countrymen, but a fine type of the Montenegrin. He is a thorough man of the world, highly educated, hospitable, and courteous. The Princess would be deemed beautiful were she in any great capital, and has the dark eves, regular features, and black hair of her race. Her bearing is dignified and gentle, and like her husband she converses fluently in French. Of the six daughters the four eldest are being educated at St. Petersburg. The eldest son, Prince Danilo, is mine years of age, and evidently the darling of his purents, who are both proud to recount his exploits as a sportsman. He had a small gun at four years of age, and recently was therteen hours on horseback with his father. He is wonderfully handsome, and is hear to a larger patrimony than any of his predecessors, the Vladikas, ever dreamed of. This recently the mountain, which is a stapendous natural fortress descending to the sea or to the plain in abrupt precipices, numbered only 120 000 clansmen; but now, thanks to the fortunes of war and the decrees of the Longress of Berlin, the territory is nearly as large as Devonshire, and has a population of 300,000, with a revenue of £30,000 a year. It is all administered on a communal system, under the supreme control of the Senate. The Prince is merely executive chief, and has a civil list of a few hundreds a year. He receives allowances from Russia and Austria, which raise this to thousands.

to know what Europe would do and what would be the movements of the fleet. He did not conceal his anxiety. "We have had fire years' war and last year a most disastrous harvest, and now again the rains are beginning when we only want ten fine days to get in our crops. We are longing for a good peace, but the Turks are stirring up the Albanians to oppose us, and heaven knows how it will epd." He maintained that the people of Dulcigno itself were in favor of annexation. The Prince regretted our approach to the capital from the sea. "We have many fine towns and pastures and corn lands, and on the side of Herzegovina magnificent forests of bine and oak." On being asked the names of the towns, he specified Nicksies and Antivari, and others—ail recent acquisitions. Cettinje

forests of the towns, he specified Nicksies and Antivari, and others—ail recent acquisitions. Cettinje
was only the cradle of the race, and the Montenegro of to-day must not be judged of by Cettinje.

The Prince expatiated on the spiendid sport
afforded by Mentenegro, and begged as to send
Engish sportsmen to him and they should receive
ample hospitality. Every kind of game abounded,
besides bears, wolves, and wild boars, especially in
the mountains toward Herzegovma. The fishing
also was splendid; the trout ran up to forty pounds,
and in a river near Nicksies, which he had netted
one day, the results were divided, according to the
custom of the country—first all the small fish were
returned to the river, and then his share alone consisted of 414 trout. He told us also of other
draughts in the lake that seemed niraculous, when
the net could not be drawn ashore, but was simply
moored at each end, and took days to clear out the
600,000 bounds weight that had been enclosed.
His Highness said he intended, if a good peare were
made, to visit London next season and see the
grand English capital. He has plans before him
for a yacht of light draught, which he would like grand English capital. He has plans before him for a yacht of light draught, which he would like to use either on the Lake of Scutari or at sea, although he professed himself an indifferent sailor and dreads the Channel passage, of which he heard such formidable accounts when he lived in Paris. Both the Princess and himself have no words to express their sense of the constant kindness of the Emperor Alexander, and speak with warm affection of the Duke and Duchess of Edinburgh.

TOM HUGHES ON AMERICAN TREE-CUTTING.

Tom Hughes on American Tree-cutting.

From The Spectator.

There are few more interesting experiences than a ride through these Southern forests. The serub is so low and thin, that you can almost see away for long distances amongst pine, white-oak, and chestnut-trees, and every now and then at ridges where the timber is thin, or where a clump of trees has been rathlesly "girdled," and the bare, gannt skeletons only remain standing, you may catch glimpses of mountain ranges of different shades of blue and green, stretching far away to the horizon. You can't live many days up here without getting to love the trees even more, I think, than we do in well-kempt England; and this outrage of "girdling," as they call it—stripping the bark from the lower part of the trunk, so that the trees wither and die as they stand—strikes one as a kind of household crucity, as if a man should cut off or distigure all his wife's hair. If he wants a tree for immer or firewood, very good. He should have it. But he should cut it down like a man, and take it clean away for some reasonable use, not leave it as a scarecrow to bear witness of his recklessness and laziness. Happily not much mischief of this kind has been done yet in the neighborhood of Rugby, and a stop will now be put to the wretched practics. I

there is another, too, almost as ghastly, but which no doubt, has more to be said for it. At least half of the largest pines alongside of the sandy tracts which do duty for roads have a long, gaping wound in their sides, about a yard from the ground. This was the native way of collecting turpentine, which cozed down and accumulated at the bottom of the gash; but I rejoice to say it no longer pays, and the custom is in disuse. It must be suppressed altogether, but carefully and gently. It seems that if not persisted in too long, the poor, dear, long-suffering trees will close up their wounds, and not be much the worse; so I trust that many of the scored pines, springing forty or fifty feet into the air before throwing out a branch, which I passed in sorrow and anger on my list long ride, may vet outlive those who outraged them. Having got rid of my spicen, excited by these two diabolic customs, I can return to our ride, which had other size nothing but delight in it. re is another, too, almost as ghastly, but

"An acute observer," said Dr. Boreum,
"can easily detect the nationality of a man. Now one could easily tell that wonder fellow unloading the cart was a Hisernian." Here the horse twisted his head around and shook off some of his harness, sain the unloader shouted: "Make penave yourself mit rour head dere, you tayful, viil you?" which rather shook the Docter's repunction as a physiogomist.—Heston Commerchal Bulletta.

RELIGIOUS INTELLIGENCE. CHURCH AND STAGE. - One of the liveliest

discussions during the recent session of the Church Congress in Leicester, England, turned upon the well-known pivot of Church and Stage. After one or two papers on the attitude of the Church toward the drama had been read, the Congress lost sight of the light literature branch, and became engreesed in the interature the Congress lost sight of the light literature branch, and became engrossed in the inquiry: "Ought clergymen to visit the theatre?" Al-most at the outset there was an exciting inci-dent. The Rev. Gordon Calthrop, of Highbury, had read the first paper, and he had thrown cold water on the Church and Stage Guild. He cold water on the Church and Stage Guild. He admitted the absurdity of declaring actors and their ways to be essentially unchristian, but he took the view that as the Church thrived the Stage would suffer. This was not the true keynote of the afternoon's speeches; but it was the only address which Herman Merivale had heard, and it fired him with indignation. "The President's address spoke of peace," said he. "I have the misfortune to be a professional dramatist, connected not only by profession, but by admiration and love, with the English stage. If I had known beforeland that I was sought to listen to what I have just heard, I stage. If I had known beforehand that I was sought to listen to what I have just heard, I should have said that the president's address had no application. I should have declined to address you. I will read to you what I had put in writing before I was quite as stirred as I feel now." The Bashop of Carlisle, as chairman, intervened to assure the irritated dramatist that both sides were unpartially heard. The Stage both sides were impartially heard. The Stage then had a remarkably good inning, as one speaker expressed it, who said he found it hard to stand against such severe bowling. The ap-pearance of the Rev. L. A. Isaacs on the other side was therefore a welcome change. He was chiefly averse to the clergy going to the stres on the ground that the ministerial standard was that things were lawful, but all things were not expedient. The Rev. Canon Money supported this view and expressed a fear that the "old this view and expressed a fear that the "old Adam might prove too much for the young Melancthon" if the Christian did not exercise some restraint on his choice of pler sure. It was not the province of the clergy to go to theatres, the evils of which Mr. Mertvale had theatres, the evils of which Mr. Merivale had acknowledged. Next, John Coleman, who called himself "a professor of dramatic art," caused much amusement when he told how the vicar of a parish where he was staying lately called upon him, and was asked why he did not come and see him at the theatre. The answer was: "Mrs. Grundy, my boy; Mrs. Grundy, We cannot be seen at a theatre in the country." That vicar, however, could always see his friends at the theatie when he came to London. "Give us your help," concluded Mr. Coleman, "to stamp out what is bad in the theatte; bring your wives and children to see that which is your wives and children to see that which is good, and rely upon it we shall be glad to see you. We shall work to make the stage what it you. We shall work to make the stage what it ought to be, and what in fact it is—one of the crowning glories of our literature and our country." In summing up the discussion the Bishop of Carlisle, who is a vice-president of the Dramatic Reform Society, said that his own the Dramatic Reform Seciety, said that his own very few experiences as a young man had not been much enjoyed, because it seemed to him that Shakespeare required a whole troupe of first-rate artists, and as there were generally only such artists in the better parts, the effect of their representation was spelled by the multitude of mufis that assisted them. The present discussion had been abarraterized by the addiscussion had been characterized by the admission that the drama must always exist, and that therefore it was in the interests of society and the Church that it should be rendered pure. There had been no rebutment of the statements that much of the present day drama was inferior, that much look place in theatres, that ferior; that much took place in theatres that should not take place there, that there was therein much toom for reform, and that there were still graver objections to music nalls. As to whether the clergy should attend theatres, to whether the ciergy should attend the area, that was a quest, on on which each one must go down on his knees before God to consider his duty in the position in which ne was placed. He should have a peor opinion of the probability of good parish work coming from a man who was a regular and systematic playgoer. He should have just the same feeling, perhaps, in a modified form, of a man who was a systematic evoquet or lawn tennis player; or who matic eroquet or lawn tennis player; or who made it part of the business of his life to indulge in those child sh things which when the man was called upon to preach the Gospel of Christ he ought in some tree sense to put away.

THREE POINTS OF SEPARATION.-The Rev Dr. H. W. Thomas, in preaching his farewell sermon last Sunday at the Centenary Methodist Church, Chicago, offered a challenge to population of 300,000, with a revenue of £30,000 a year. It is all administered on a communal system, under the supreme control of the Senate. The Prince is merely executive chief, and has a civil list of a few hundreds a year. He receives allowances from Russia and Austria, which raise this to thousands.

His Highness informed us that the army under the command of his coisin had left a lew days be. is unreasonable and unjust. It makes God an angry tyrant rather than a loving father. It leaves no place at all for mercy." Concerning endless punishment he remarked: "If I believed that millions who once lived here were in such toiments and must stay there forever —if I believed that, I should never smile again. I don't believe it; and I don't see how any sen-sible man who believes in God can believe it To teach future punishment in any such severe and terrible interality and endlessness, is to make undels and atheists of the people, or to drive sensible men away from the Church in disgust. If it is said that God teaches it in the Bible, then so much the worse for God and the Bible." The third point brought out this declaration: I fully believe with our articles of ration: I fully believe with our articles of faith, that the Scriptures contain all things necessary to salvation. I believe that the will of God is reveal d in the Scriptures. I accent implicitly the teachings of Jesus Christ, though I do not suppose in all cases we have His precise language; yet I believe we have in substance his thoughts, its consensus, in so far that we may know His mind and His doctrine. But I do not believe that all parts of all the sixty-six books in the Bible are equally inspired, or of equal authority and value. Nor do I believe that all the books of the Old Testament are critically infallible. Any attempt to maintain such a view is, in my opinion, not only utterly use-less, but puts a burden upon the church that less, but puts a burden upon the church that makes it weaker and not stronger.

Intense Methodism.—Bishop Foster made an earnest piea at the Methodist Preachers' Meeting in Providence a few days ago for increased denominational loyalty. "My memory," he said, "goes back to the middle of our history. We were; then intense Methodists. We had been at war with other sects and were regarded by them as something like a pest. We were a busy people, returning with interest the blows we received, and we grew fat and powerful by fighting. Now we have a day of peace, but it remains to be seen whether we shall be as successful in peace as in war. I think every Church ought to be intense for its convictions and doctrines. Whenever we are disposed to conciliate and hold back for the sake of peace, truth is the hold back for the sake of peace, truth is the hold back for the sake of peace, trath is the sufferer. Every honest man owes it to himself to beheve that he has the truth. Either he has convictions or he has not. I sincerely believe that in this intenseness lies the power of individuals, and of the church as well. The danger is that if we keep on we shall not be able to tell why we contend or what we contend for in the way of convic-tions and doctrines, and hence why should we not be merged in some other denomination? It is peculiar to us to have intense convic-tions, but we have largely lost our denominational love. There was a time when this love and pride were immense. It is characterlove and pride were immense. It is characteristic in all sects, and survives in all the others, yet no people are under more obligations to love their church, and none love it less than we do. The Methodist Church has made its people what they are, and it is exceedingly difficult to find any man that ever brough anything into the denomination.

No Heretics in Glass.—Among the largest contributors to the building fund of the new parochial church of Aix-la-Chapelle are the German Emperor, the Crown Prince, and Herr Reisdorf. The people were so moved by the generosity of the Emperor and his sen, that they resolved to introduce their portraits, along with that of Herr Reisdorf, in one of the along with that of Herr Reisdorf, in one of the fine painted windows destined for the new church. No objection was raised at the time to this proposal, and the artist who was charged with the execution of the window finished his picture of the three benefactors of the Church of St. James, Kappesbauern. Some "genuine Catholics," as they called themselves, discovered, just before it was too late, that "the Church" does not permit here-ties to be portunized in Church pictures or wintics to be portrayed in Church pictures or win-dows, except in such a manner as their loyalty will not allow their to represent their present

9 and their future sovereign. It would scarcely be possible, even if it were politic, in a modern Prussian church to depict the Kaiser, like Atius, with a little black devil coming out of his mouth. Hence it has been determined that the heads of the Protestant Emperor and Crawn Prince must be removed from the the heads of the Protestant Emperor and Crown Prince must be removed from the bodies to which they are attached, and the heads of angels be substituted in their stead. There was no religious objection to the introduction of Herr Reisdorf into the window in an attitude of adoration, as he is a Catholic; but in order to avoid any charge of disloyalty, the religious authorities have ordered that his portrait shall also give way to the face of an angel.

An English Living.—The living of Camberwell was purchased in 1846 for \$60,000 by the Rev. Mr. Williams. The gross income was \$10,000, and he had no difficulty in borrowing the money needed for the purchase. No sooner had he taken possession than, owing to some dispute with the persons who lent him the money, the living was sequestrated for the payment of the \$60,000, in addition to which there were debts owing, which brought up the total to \$100,000, among the vicar's liabilities being a premium on a sum of \$12,500 advanced by the Commissioners of Queen Anne's Bounty for the erection of a ticarage. Mr. Williams was not in residence for any length of time from 1846 till 1870, and the state of affairs in the parish was so scandalous that a perition from the parishioners was presented by Lord St. Leonards to the House of Lords in 1858, and a debate took place on the subject, without, how-Leonards to the House of Lords in 1858, and a debate took place on the subject, without, however, any practical result. When Bishop Wilberforce was appointed to the See of Winchester, he endeavored to arrange this unpleasant business, and proposed with the help of local subscriptions to appoint a curate in charge with a salary of \$1,000 a year and the vicarage as a residence. Mr. Williams, however, did not allow the Bishop to carry out his original intention, for as soon as the scheme ever, did not allow the Bishop to carry out his original intention, for as soon as the scheme was settled he presented himself, insisted on his right to the residence, defeated the Bishop, and became his own curate in charge, retaining the position down to the time of his death. With his income of \$10,000 a year he may have been able to clear the living of all incumbrances, so that the new vicar will have a chance of looking after the spiritual interests of his parishingers. of his parishioners.

THE BURIALS ACT .- the first interment that has taken place in Pendleton since the passage of the Burials Act was conducted in a most orderly manner. The relatives of the deceased, being Dissenters, had asked their minister to express to the incumbent of St. Thomas's their desire to have the remains buried in the churchyard. The incumbent and baried in the churchyard. The incumbent and the minister made, the arrangements in a most amicable spirit. Before the funeral procession left the house, the minister conducted a short service, in order to obviate the necessity of having a lengthened service at the grave side, should the weather, which was then threatening, become unfavorable. After the body had been deposited in the grave, another short service was held. In the course of a prayer which he offered, the minister thanked God that there were in the Church of England ministers who meant to carry out the new act loyally and in a truly Christian spirit, and that in the present instance, through the good feeling ally and in a fully Christian spirit, and that in the present instance, through the good feeling of the incumbent of that church, the relatives of the deceased had had their desire gratified to the fullest extert. In contrast with this amic-able settlement of a troublesome matter stands the intolerant conduct of the Rev. Joseph Hali, rector of Shirland, who has published a frantic protest against the Burials Act, affirming his determination to yield the churchyard only to force.

Here is an eloquent passage from an address recently delivered in England by the Bishop of Meath: "Many of you, doubtless, have heard that wondrous opening passage of Mendelssohn's 'Eigah,' in which the musician tries to represent the despair of a whole people perishing from thirs, a despair which finds yent for a while in suiten restless marmuring, until at length, gathering a terrible cumulative attempth, it bursts forth almost appaluntil at length, gathering a terrible cumula-tive strength, it bursts forth almost appal-lingly in cries of heartrending and importu-nate agony. So can I imagine the voice of a deceived and terror-stricken humanity having sought in vain to slake its thirst at the dry wells of modern positivism, sending unward at length to heaven the broken-hearted cry, 'Give us back the Christ that we have lost. Away with the ghastly spectre, the hideous phantom, the "h;" that has usurped His Throne, and let us learn again to love and worship a God who is heart to heart."

The Archbishop of Canterbury recently ex-Prince is merely executive chief, and has a civil list of a few hundreds a year. He receives allowances from Russia and Austria, which raise this to thousands.

His Highness informed us that the army under the command of his coasin had left a few days before for the frontier at Autivari, and he was eager to know what Europe would do and what would be because of the constant to the constant that the army under the command of his coasin had left a few days before for the frontier at Autivari, and he was eager to know what Europe would do and what would be penalty of a broken law. To me such a view Church and State and the result of the watch. cry there of a free Church in a free country bad been a Church not half so free as before, because a dominant sect, unrestrained by any of the influences which its connection with the State brought upon it, became much more domineering, and less attentive to the various opinious and forms in which liberty of thought erted itself than it was under the old system.

The Michaelmas Day celebrations in the ritunlistic churches of London were even more elaborate than they usually are. At the Caurch of Saints Vedast and Michael, Cheapside, a brass cross was on the altar, and there were two tall lighted candles and about forty were two tail lighted cambles and about forly unlighted tapers. Between the candlesticks were numerous vases of flowers. The celebrant was dressed precisely as a Roman Catholic priest is at celebration of mass. The choir sang a versified English translation of the Roman Catholic encharistic hymn, "O Salutaris Hostia."

The seventy-fifth anniversary of the organization of the Central Baptist Church, Providence, was celebrated on Thursday last. A remarkable feature of the services was the fact that the Rev. Dr. Murch, of Tarrytown, N. Y., who preached the twenty-fifth and firtieth anniversary sermons, was again the preacher. In his letter accepting the invitation, he remarked that the church would probably be obliged to get somebody else to preach the 100th anniversary sermon.

A temperance preacher remarked the other day during the session of the Methodist Cenference at Syracuse: "Mrs. Hayes is going out of the White House too soon. What will tollow is not yet known. Christian men and women should not allow wine to be introduced there again without a vigorous protest."

CURRENT RELIGIOUS DISCUSSION.

MR. KIMBALL'S SUCCESS.

MR. KIMBALL'S SUCCESS.

From The Congregationalist.

Not only in these but in scores of other cases there is no reason to believe that the decit could have been lifted without Mr. Kimball's assistance. That he turns the screws hard and puts on a pressure nobody denies, but desperate cases require a desperate remedy, and sometimes nothing could be effected without stirring up people to see that a great and beroic movement must be an de if their charlen is to be saved. And even where a successful effort has been made without calling in Mr. Kimbali, it cannot be said that he has had nothing to do with it, for the surprising results that have intended his efforts in other places have inspired a new courage everywhere for this kind of work; and we are good to know that the calls for his assistance bave never to know that the calls for his assistance have never been so numerous as now. But let all chareness be-ware how they run into debt hereafter, for such as do it with their cyes open, and after the experience of the past iew years, will deserve, and will receive, little sympathy.

THE EPISCOPAL CONVENTION.

The election of the President of the House of Deputies was of course practically one of the most important doings of the Session. It was, at once, as important doings of the Session. It was, at once, as immistakable expression of Church sentiment, and it was an augury for the Church's future; what she is to be, and what she is to do. There has been a feeling throughout the Church, intense and outspoken, that certain dangers threaten the Church; dangers destructive of her parity, of her peace, and possibly of her unity; and most surely rumous to ner efficiency in doing the work to which Christ has appointed her. This convention has been tooked torward to as an occasion, when not unlikely, the embers of misched might be fanned into a blag. It was therefore regarded as of no immonsiderable moment who should be President of the House of Deputies. The election of the Key. Dr. Beardsley to that position settles, and we believe settles for all time, several questions. It shows, what we have all along believed and said, that the heart of the Church is sound, and that the great body of American Churchmen, by whatever party names they may have hitherte been called, are true as steel "to the Doctrine, and Sacraments, and the discipline of Christ," "as this Church hate received the same."